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DEPT. OF TRANSPORTATION

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The **Railroad Safety Advisory Committee (RSAC)** will hold its thirteenth full Committee on January 28, 2000. The following is a review of RSAC initiatives to date:

Revision of Freight Power Brake Regulations - The 1992 Rail Safety Enforcement and Review Act of 1992 required FRA to revise the power brake regulations. FRA did complete the portion of the rule involving two-way end-of-train devices (EOTs) and it became effective on July 1, 1997. FRA published a Notice of Proposed Rulemaking (NPRM) on September 16, 1994, and conducted six days of public hearings. Additional options were requested from passenger interests and freight interests. Passenger power brake provisions were included in the Passenger Equipment Standards NPRM published September 23, 1997, and a final rule is in preparation. Revision of the freight power brake regulations was tasked to RSAC on April 1, 1996. After a period of over a year of intense efforts, a consensus between railroad labor and management could not be reached on several contentious issues. FRA formally withdrew the freight power brake task at the June 24, 1997, RSAC meeting. FRA published an NPRM on September 9, 1998, reflective of what FRA has learned through the collaborative process. Public hearings were conducted on October 26, 1998, in Kansas City, Missouri, and on November 13, 1998, in Washington, DC. A technical conference was held in Walnut Creek, California, November 23-24, 1998. The final date for the submission of written comments was extended to March 1, 1999. FRA is preparing the final rule.

Revision of Track Safety Standards - The 1992 safety authorization act required FRA to issue revised track rules. FRA published an Advanced Notice of Proposed Rulemaking (ANPRM) on November 6, 1992, and conducted workshops during the period January-March 1993. The RSAC accepted the task of preparing an NPRM on April 2, 1996. In November 1996, the RSAC voted to recommend issuance of the NPRM and FRA published an NPRM on July 3, 1997. A public hearing was held on September 4, 1997, with comments due by December 22, 1997. The final rule was published on June 22, 1998. The effective date of the rule was September 21, 1998.

Although the subject of much discussion, the Track Safety Working Group could not reach consensus about how the revised Track Safety Standards should address GRMS technology. The RSAC therefore recommended that a small task group continue evaluating the possibility of developing GRMS standards for broader application within the industry. The task group drafted a GRMS standard providing for the use of this technology within the industry which has been approved by the Working Group. FRA has prepared an amendment to the final

rule which will address the use of GRMS technology. Contingent upon approval of the Working Group, the revision will be forwarded to the full Committee for consideration.

Railroad Communications - FRA, in submitting a report to Congress on Railroad Communications and Train Control on July 13, 1994, noted the need to revise existing Federal standards for radio communications in concert with railroads and employee representatives. The RSAC accepted the task of preparing an NPRM, including consideration of communication capabilities required in railroad operations, on April 1, 1996. The RSAC voted to recommend issuance of an NPRM. The NPRM was published on June 11, 1997. A final rule was published on September 4, 1998, and became effective on January 2, 1999.

Tourist, Excursion, Scenic and Historic Service - The Swift Railroad Development Act of 1994 required FRA to submit a report to Congress regarding FRA's actions to recognize the unique factors associated with these generally small passenger operations that often utilize historic equipment. The report was submitted to the Congress on June 10, 1996. The RSAC authorized formation of a Working Group on Tourist and Historic Railroads on April 1, 1996, to promote the safe operation of tourist and historic rail operations. The Working Group has been monitoring completion of the steam locomotive regulations task and will continue its oversight of task force activities, including the proposed development of requirements for the training of steam locomotive operators and maintenance personnel. It is expected that future working group efforts will involve the review of the applicability of other regulations, such as track safety, emergency preparedness, and passenger equipment safety standards to tourist, scenic and historical railroad operations.

Revision of Steam-Powered Locomotive Inspection Standards - A committee of steam locomotive experts from tourist and historic railroads have sought a partnership with FRA to revise the steam locomotive regulations. Revision of the regulations was tasked to the RSAC on July 24, 1996. The Tourist and Historic Railroads Working Group created a Steam Task Force to address this task. The full Committee voted to recommend issuance of an NPRM. The NPRM was published in the Federal Register on September 25, 1998. A public hearing was held on February 4, 1999. The Task Force's recommendations in response to the comments received were accepted by the Working Group and the full Committee voted to incorporate the recommendations in the final rule. The final rule was published on November 17, 1999, and became effective January 18, 2000.

Revision of Qualification and Certification of Locomotive Engineer Regulations - The final rule for locomotive engineer certification became effective in 1991, but certain issues were left unresolved. Experience under the

rule has also raised additional issues. An interim final rule amendment was published on October 12, 1995. The RSAC accepted a task to revise the regulations on October 31, 1996. The full Committee voted at the May 14, 1998, meeting to recommend issuance of the NPRM forwarded by the Working Group. An NPRM was published in the Federal Register on September 22, 1998. The Working Group has met to resolve issues presented in the public comments. At the January 28, 1999, meeting, the RSAC recommended issuance of a final rule with the Working Group modifications. The final rule was published on November 8, 1999.

Safety Standards for Roadway Maintenance Machines - During deliberations of the Working Group on Track Safety Standards, the issue of proposing standards relating to the safety of persons riding or operating maintenance-of-way equipment was raised. On October 31, 1996, the RSAC accepted a task of drafting proposed rules for safety of this equipment. A task force was formed to address the issue and the Task Force reached a consensus agreement in principle on what should be included in the proposed rule. At their last meeting, the Task Force identified several remaining issues to be resolved. In addition, the Working Group recognized the need to coordinate with the Locomotive Cab Conditions Working Group to ensure that standards for noise and air temperature (for enclosed cabs only) for new category 1 and 2 equipment employ a rationale that is reasonably consistent with the technical approach being employed for locomotive cabs. (Note: actual standards are expected to differ in important respects, recognizing the differences in the working conditions and functions involved.) The Task Force has reached a consensus agreement in principle on what should be included in the proposed rule, however, several related issues of a technical nature remain to be resolved. A complete draft proposed rule package is being prepared for presentation to the Track Working Group.

Locomotive Crashworthiness and Working Conditions Planning Task - The Rail Safety Enforcement and Review Act of 1992 required FRA to conduct a proceeding regarding locomotive crashworthiness and working conditions and issue regulations or submit a report. FRA conducted research, outreach, and a survey of locomotive conditions and finalized a report to the Congress entitled *Locomotive Crashworthiness & Working Conditions*, transmitted by letter of September 18, 1996. The report conveyed data and information developed by FRA to date, closed out those areas of investigation for which further action is not warranted, and defined issues that should be pursued further in concert with industry parties, either for voluntary or regulatory action. The RSAC accepted a planning task on October 31, 1996, to evaluate the need for action responsive to recommendations contained in the report. A Planning Group reviewed the report and grouped issues into categories. FRA presented a task statement addressing

locomotive crashworthiness and a task statement addressing cab working conditions to the RSAC on June 24, 1997.

Locomotive Crashworthiness - On June 24, 1997, the RSAC voted to accept a task addressing locomotive crashworthiness issues. The Working Group on Locomotive Crashworthiness established a Task Force on engineering issues that reviewed collision history and design options. The Working Group reviewed the results of research that was commissioned and is drafting standards for freight and passenger locomotives to present to the RSAC for consideration.

Locomotive Cab Working Conditions - On June 24, 1997, the RSAC voted to accept a task addressing cab working conditions issues. The Working Group on Locomotive Cab Working Conditions established task forces on noise and temperature. The full Working Group met several times to develop recommendations for locomotive sanitation standards. A draft sanitation document is under review by the Working Group. The Noise Task Force met several times and FRA is preparing a draft document for Working Group approval regarding noise exposure requirements to be presented to the RSAC.

Revision of Event Recorder Requirements - In issuing final rules for event recorders which became effective May 5, 1995, FRA noted the need to provide more refined technical standards. The National Transportation Safety Board (NTSB) noted the loss of data from event recorders in several accidents due to fire, water and mechanical damage. NTSB proposed performance standards and agreed to serve as co-chair for an industry/government working group that would define technical standards for next-generation railroad event recorders. FRA conducted a meeting of an informal working group comprised of railroad labor and management and co-chaired by NTSB on December 7, 1995, to consider development of technical standards. At the July 24-25, 1996, RSAC meeting, the Association of American Railroads (AAR) agreed to continue the inquiry and on November 1, 1996, reported the status of work on proposed industry standards to the RSAC. On March 5, 1997, the NTSB issued recommendations regarding testing and maintenance of event recorders as a result of finding in the investigation of an accident on February 1, 1996, at Cajon Pass, California. On March 24, 1997, the RSAC indicated its desire to receive a task to consider the NTSB recommendations with respect to crash survivability, testing and maintenance. A task was presented to, and accepted by, the RSAC on June 24, 1997. The Working Group on Event Recorders was formed and a Task Force established. The Working Group and Task Force have conducted meetings and a draft proposed rule is being reviewed.

Positive Train Control (PTC) Systems - The Swift Rail Development Act of 1994 required FRA to submit a status report on the implementation of positive

train control as a follow-up to the July 1994 report entitled *Railroad Communications and Train Control*. FRA has provided testimony to the committees of jurisdiction reporting the status of efforts to promote implementation of positive train control. FRA plans to utilize the results of the efforts described below to provide an appropriate status report.

On September 30, 1997, the RSAC accepted two tasks involving defining PTC functionalities, describing available technologies, evaluating costs and benefit of potential systems, and considering implementation opportunities and challenges, including demonstration and deployment.

The Data and Implementation Task Force finalized a report on the future of PTC systems, which will be incorporated into the required progress report to the Congress. The Working Group concurred in full Committee voted to accept is scheduled for the September 8, 1999, full Committee meeting. With completion of the report, the Data and Implementation Task Force has substantially completed Task No. 97-4 and has addressed portions of Task No. 97-5.

To address Task No. 97-5, the Data and Implementation Task Force will be involved in monitoring implementation of PTC on the joint Illinois/AAR/UP/FRA project. This is an on-going process to address any remaining issues regarding the feasibility of implementing fully integrated PTC systems, evaluate factors that may guide decisions on under what circumstances PTC could yield optimum benefits in relation to costs, and determine the timetable over which such systems could be deployed, taking into account the need to first complete testing and revenue demonstration of any new system. As part of this process, the task force is reviewing the feasibility to use the revised Corridor Risk Assessment Model, developed by the Volpe Center, to analyze railroad corridors that could provide the best safety benefits if PTC were implemented. A contingent of task force members will meet at the Volpe Center in late February for a presentation and discussion on the revised model, and the results will be discussed with the full task force in March 2000.

A third task accepted by the RSAC requires revising various regulations to address the safety implications of processor-based signal and train control technologies, including communications-based operating systems. The Standards Task Force met on December 7, 8, and 9, 1999, to finalize consensus on various outstanding issues. Tentative agreement was obtained on issues concerning risk metrics, third party validation, applicability of the rule, life cycle, tracking and reporting, and other related matters. FRA is integrating the resulting regulatory language, and it is expected that a proposed rule will be presented for Working Group consideration in March 2000.

The PTC Working Group has established two teams: an Operating Rules Team, which is actively working to ensure that appropriate railroad operating rules are part of any PTC implementation process; and a Human Factors Team which is evaluating human factor aspects of PTC systems. Members of these teams were drawn from both PTC task forces and other members of the railroad industry that have specific subject matter expertise.

Definition of Reportable “Train Accident” - FRA identified the need to comprehensively revise the regulations governing accident/incident reporting, which had not been revised since 1974. FRA issued an NPRM on August 19, 1994, and a final rule on May 30, 1996. Technical amendments were published on November 22, 1996, and the FRA Administrator signed final rule amendments on December 16, 1996. The final rule became effective on January 1, 1997. On June 24, 1997, the RSAC reviewed a request by an RSAC member to clarify the means used by railroads to estimate railroad property damage and improve the consistency of reporting. The RSAC accepted the task on September 30, 1997, limited to determination of damages qualifying an event as a reportable train accident. A Working Group was formed, held its initial meeting in February 1999, and has been conducting meetings to address this task.